



SEQUENCE LISTING

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Beltzer, James P.
Nair, Shrikumar A.
Kolodziej, Andrew

<120> BINDING MOIETIES FOR FIBRIN

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<140> US 10/649,229
<141> 2003-08-26

<150> US 09/627,806
<151> 2000-07-28

<150> US 60/146,425
<151> 1999-07-29

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<213> Artificial Sequence

<220>
<223> synthetic fibrin binding peptide

<221> DISULFID
<222> FROM 3 TO 9

<400> 84
Asp Gly Cys His Tyr Tyr Gly Thr Cys Leu His
 1             5             10

<210> 85
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic fibrin binding peptide

<221> DISULFID
<222> FROM 3 TO 9

<400> 85
Arg Pro Cys Asn Tyr Tyr Gly Thr Cys Leu His
 1             5             10

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<210> 86
 <211> 10
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic fibrin binding peptide

<221> DISULFID
 <222> FROM 1 TO 10

<221> VARIANT
 <222> 3
 <223> Xaa = Asn or Asp

<221> VARIANT
 <222> 6
 <223> Xaa = Gly or Tyr

<221> VARIANT
 <222> 7
 <223> Xaa = His or Val

<221> VARIANT
 <222> 8
 <223> Xaa = Pro or Trp

<221> VARIANT
 <222> 9
 <223> Xaa = Trp or Tyr

<400> 86
 Cys Tyr Xaa Ser Tyr Xaa Xaa Xaa Xaa Cys
 1 5 10

<210> 87
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic fibrin binding peptide

<221> DISULFID
 <222> FROM 4 TO 13

<400> 87
 Asn His Gly Cys Tyr Asn Ser Tyr Gly Val Pro Tyr Cys Asp Tyr Ser
 1 5 10 15

<210> 88
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>

<223> synthetic fibrin binding peptide

<221> DISULFID

<222> FROM 4 TO 13

<400> 88

Arg	Phe	Leu	Cys	Tyr	Asp	Ser	Tyr	Tyr	His	Trp	Trp	Cys	Ser	His	His
1				5					10					15	

<210> 89

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> stable binding loop of 6 amino acids

<221> DISULFID

<222> FROM 1 TO 6

<221> VARIANT

<222> 4

<223> Xaa = Asp or Gly

<400> 89

Cys	Pro	Tyr	Xaa	Leu	Cys
1				5	

<210> 90

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic fibrin binding peptide

<221> DISULFID

<222> FROM 4 TO 9

<400> 90

Trp	Phe	His	Cys	Pro	Tyr	Asp	Leu	Cys	His	Ile	Leu
1				5					10		

<210> 91

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic fibrin binding peptide

<221> DISULFID

<222> FROM 4 TO 9

<400> 91

Gln	Trp	Glu	Cys	Pro	Tyr	Gly	Leu	Cys	Trp	Ile	Gln
1				5					10		

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<210> 92
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic fibrin binding peptide

<221> DISULFID
<222> FROM 4 TO 9

<400> 92
Gly Phe His Cys Pro Tyr Asp Leu Cys His Ile Leu
 1             5             10

<210> 93
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic fibrin binding peptide

<221> DISULFID
<222> FROM 3 TO 8

<400> 93
Phe His Cys Pro Tyr Asp Leu Cys His Ile Leu
 1             5             10

<210> 94
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic fibrin binding peptide

<221> DISULFID
<222> FROM 2 TO 7

<400> 94
His Cys Pro Tyr Asp Leu Cys His Ile Leu
 1             5             10

<210> 95
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic fibrin binding peptide

<221> DISULFID
<222> FROM 3 TO 8

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<400> 95
Phe His Cys Pro Tyr Asp Leu Cys His Ile
 1             5             10

<210> 96
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic fibrin binding peptide

<221> DISULFID
<222> FROM 3 TO 8

<400> 96
Trp Glu Cys Pro Tyr Gly Leu Cys Trp Ile Gln
 1             5             10

<210> 97
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic fibrin binding peptide

<221> DISULFID
<222> FROM 2 TO 7

<400> 97
Glu Cys Pro Tyr Gly Leu Cys Trp Ile Gln
 1             5             10

<210> 98
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic fibrin binding peptide

<221> DISULFID
<222> FROM 3 TO 8

<400> 98
Trp Glu Cys Pro Tyr Gly Leu Cys Trp Ile
 1             5             10

<210> 99
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> phage display library template sequence

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<221> DISULFID
<222> FROM 3 TO 9

<221> VARIANT
<222> 1-2, 4-8, 10-11
<223> Xaa = any amino acid, except Cys

<400> 99
Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa
 1             5             10

<210> 100
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic fibrin binding peptide

<221> DISULFID
<222> FROM 3 TO 9

<221> VARIANT
<222> 1
<223> Xaa = Leu, Arg, or Phe

<221> VARIANT
<222> 2
<223> Xaa = Pro or Ala

<221> VARIANT
<222> 4
<223> Xaa = Asp, His, Asn, or Ser

<221> VARIANT
<222> 10
<223> Xaa = Leu or Phe

<221> VARIANT
<222> 11
<223> Xaa = Asp or His

<400> 100
Xaa Xaa Cys Xaa Tyr Tyr Gly Thr Cys Xaa Xaa
 1             5             10

<210> 101
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> truncated synthetic fibrin binding peptide

<221> DISULFID
<222> FROM 2 TO 8

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<400> 101
Pro Cys Asp Tyr Tyr Gly Thr Cys Leu
 1             5

<210> 102
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> truncated synthetic fibrin binding peptide

<221> DISULFID
<222> FROM 1 TO 7

<400> 102
Cys Asp Tyr Tyr Gly Thr Cys Leu
 1             5

<210> 103
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> truncated synthetic fibrin binding peptide

<221> DISULFID
<222> FROM 1 TO 7

<400> 103
Cys Asp Tyr Tyr Gly Thr Cys
 1             5

<210> 104
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> truncated synthetic fibrin binding peptide

<400> 104
Asp Tyr Tyr Gly Thr
 1             5

<210> 105
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> variegated template region for phage display
      library TN10-9

<221> DISULFID
<222> FROM 4 TO 13

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<221> VARIANT
<222> 1-3, 5-12, 14-16
<223> Xaa = any amino acid, except Cys

<400> 105
Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa
 1             5             10             15

<210> 106
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> variegated template region for phage display
      library TN6-6

<221> DISULFID
<222> FROM 4 TO 9

<221> VARIANT
<222> 1-3, 5-8, 10-12
<223> Xaa = any amino acid, except Cys

<400> 106
Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa
 1             5             10

<210> 107
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> linearized fibrin binding peptide

<400> 107
Leu Pro Ser Asp Tyr Tyr Gly Thr Ser Leu Asp
 1             5             10

<210> 108
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> linearized fibrin binding peptide

<221> MOD_RES
<222> 3, 9
<223> Xaa = penicillamine

<400> 108
Leu Pro Xaa Asp Tyr Tyr Gly Thr Xaa Leu Asp
 1             5             10

```

<210> 109
 <211> 11
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> substituted fibrin binding peptide

<221> DISULFID
 <222> FROM 3 TO 9

<221> MOD_RES
 <222> 7
 <223> Xaa = D-Ala

<400> 109
 Leu Pro Cys Asp Tyr Tyr Xaa Thr Cys Leu Asp
 1 5 10

<210> 110
 <211> 11
 <212> PRT
 <213> Artificial Sequence

<221> DISULFID
 <222> FROM 3 TO 9

<220>
 <223> alanine-substituted synthetic fibrin binding
 peptide

<400> 110
 Leu Ala Cys Asp Tyr Tyr Gly Thr Cys Leu Asp
 1 5 10

<210> 111
 <211> 11
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> alanine-substituted synthetic fibrin binding
 peptide

<221> DISULFID
 <222> FROM 3 TO 9

<400> 111
 Leu Pro Cys Ala Tyr Tyr Gly Thr Cys Leu Asp
 1 5 10

<210> 112
 <211> 11
 <212> PRT
 <213> Artificial Sequence

<220>

<223> alanine-substituted synthetic fibrin binding peptide

<221> DISULFID

<222> FROM 3 TO 9

<400> 112

Leu Pro Cys Asp Ala Tyr Gly Thr Cys Leu Asp
1 5 10

<210> 113

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> alanine-substituted synthetic fibrin binding peptide

<221> DISULFID

<222> FROM 3 TO 9

<400> 113

Leu Pro Cys Asp Tyr Ala Gly Thr Cys Leu Asp
1 5 10

<210> 114

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> alanine-substituted synthetic fibrin binding peptide

<221> DISULFID

<222> FROM 3 TO 9

<400> 114

Leu Pro Cys Asp Tyr Tyr Ala Thr Cys Leu Asp
1 5 10

<210> 115

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> alanine-substituted synthetic fibrin binding peptide

<221> DISULFID

<222> FROM 3 TO 9

<400> 115

Leu Pro Cys Asp Tyr Tyr Gly Ala Cys Leu Asp
1 5 10

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<210> 116
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> alanine-substituted synthetic fibrin binding
      peptide

<221> DISULFID
<222> FROM 3 TO 9

<400> 116
Leu Pro Cys Asp Tyr Tyr Gly Thr Cys Ala Asp
 1             5             10

<210> 117
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic fibrin binding peptide

<221> DISULFID
<222> FROM 3 TO 9

<400> 117
Leu Pro Cys Asp Tyr Tyr Gly Ser Cys Leu Asp
 1             5             10

<210> 118
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic fibrin binding peptide

<221> DISULFID
<222> FROM 3 TO 9

<221> MOD_RES
<222> 8
<223> Xaa = diaminopropionic acid

<400> 118
Leu Pro Cys Asp Tyr Tyr Gly Xaa Cys Leu Asp
 1             5             10

<210> 119
<211> 11
<212> PRT
<213> Artificial Sequence

<220>

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<223> synthetic fibrin binding peptide

<221> DISULFID

<222> FROM 3 TO 9

<221> MOD_RES

<222> 8

<223> Xaa = L-homoserine

<400> 119

Leu Pro Cys Asp Tyr Tyr Gly Xaa Cys Leu Asp
1 5 10

<210> 120

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic fibrin binding peptide

<221> DISULFID

<222> FROM 3 TO 9

<400> 120

Leu Pro Cys Asp Tyr Tyr Gly Val Cys Leu Asp
1 5 10

<210> 121

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic fibrin binding peptide

<221> DISULFID

<222> FROM 3 TO 9

<400> 121

Leu Pro Cys Asp Tyr Phe Gly Thr Cys Leu Asp
1 5 10

<210> 122

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic fibrin binding peptide

<221> DISULFID

<222> FROM 3 TO 9

<221> MOD_RES

<222> 6

<223> Xaa = 1-naphthyl

<400> 122

Leu Pro Cys Asp Tyr Xaa Gly Thr Cys Leu Asp
1 5 10

<210> 123

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic fibrin binding peptide

<221> DISULFID

<222> FROM 3 TO 8

<221> MOD_RES

<222> 5

<223> Xaa = 1-naphthyl

<400> 123

Leu Pro Cys Asp Xaa Gly Thr Cys Leu Asp
1 5 10

<210> 124

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic fibrin binding peptide

<221> DISULFID

<222> FROM 3 TO 9

<221> MOD_RES

<222> 6

<223> Xaa = biphenyl group

<400> 124

Leu Pro Cys Asp Tyr Xaa Gly Thr Cys Leu Asp
1 5 10

<210> 125

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic fibrin binding peptide

<221> DISULFID

<222> FROM 3 TO 9

<221> MOD_RES

<222> 6

<223> Xaa = tetrahydroisoquinoline-3-carboxylic acid

<400> 125
 Leu Pro Cys Asp Tyr Xaa Gly Thr Cys Leu Asp
 1 5 10

<210> 126
 <211> 12
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic fibrin binding peptide

<221> DISULFID
 <222> FROM 4 TO 9

<400> 126
 Gly Phe His Cys Pro Tyr Asp Leu Cys His Ile Leu
 1 5 10

<210> 127
 <211> 11
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic fibrin binding peptide

<221> DISULFID
 <222> FROM 3 TO 8

<400> 127
 Phe His Cys Pro Tyr Asp Leu Cys His Ile Leu
 1 5 10

<210> 128
 <211> 10
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic fibrin binding peptide

<221> DISULFID
 <222> FROM 23 TO 7

<400> 128
 His Cys Pro Tyr Asp Leu Cys His Ile Leu
 1 5 10

<210> 129
 <211> 10
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic fibrin binding peptide

<221> DISULFID
 <222> FROM 3 TO 8

<400> 129
 Phe His Cys Pro Tyr Asp Leu Cys His Ile
 1 5 10

<210> 130
 <211> 11
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic fibrin binding peptide

<221> DISULFID
 <222> FROM 3 TO 8

<400> 130
 Trp Glu Cys Pro Tyr Gly Leu Cys Trp Ile Gln
 1 5 10

<210> 131
 <211> 10
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic fibrin binding peptide

<221> DISULFID
 <222> FROM 2 TO 7

<400> 131
 Glu Cys Pro Tyr Gly Leu Cys Trp Ile Gln
 1 5 10

<210> 132
 <211> 10
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetic fibrin binding peptide

<221> DISULFID
 <222> FROM 3 TO 8

<400> 132
 Trp Glu Cys Pro Tyr Gly Leu Cys Trp Ile
 1 5 10

<210> 133
 <211> 4
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> sequence motif of fibrin binding peptide

 <221> VARIANT
 <222> 4
 <223> Xaa = Thr, Ser, or Val

 <400> 133
 Tyr Tyr Gly Xaa
 1

 <210> 134
 <211> 16
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> synthetic fibrin binding peptide

 <221> DISULFID
 <222> FROM 4 TO 13

 <221> VARIANT
 <222> 1
 <223> Xaa = Asn or Arg

 <221> VARIANT
 <222> 2
 <223> Xaa = His or Phe

 <221> VARIANT
 <222> 3
 <223> Xaa = Gly or Leu

 <221> VARIANT
 <222> 6
 <223> Xaa = Asn or Asp

 <221> VARIANT
 <222> 9
 <223> Xaa = Gly or Tyr

 <221> VARIANT
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 <223> Xaa = Val or His

 <221> VARIANT
 <222> 11
 <223> Xaa = Pro or Trp

 <221> VARIANT
 <222> 12
 <223> Xaa = Tyr or Trp

 <221> VARIANT
 <222> 14

<223> Xaa = Asp or Ser

<221> VARIANT

<222> 15

<223> Xaa = Tyr or His

<221> VARIANT

<222> 16

<223> Xaa = Ser or His

<400> 134

Xaa	Xaa	Xaa	Cys	Tyr	Xaa	Ser	Tyr	Xaa	Xaa	Xaa	Xaa	Cys	Xaa	Xaa	Xaa
1				5				10						15	

<210> 135

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic fibrin binding peptide

<221> DISULFID

<222> FROM 3 TO 8

<221> VARIANT

<222> 1

<223> Xaa = Trp, Phe, His or Tyr

<221> VARIANT

<222> 2

<223> Xaa = His, Asp or Glu

<221> VARIANT

<222> 6

<223> Xaa = Asp, Gly or Ala

<221> VARIANT

<222> 9

<223> Xaa = His, Phe, Tyr or Trp

<221> VARIANT

<222> 10

<223> Xaa = Ile, Leu, or Val

<221> VARIANT

<222> 11

<223> Xaa = Asn, Gln, Ile, Leu or Val

<400> 135

Xaa	Xaa	Cys	Pro	Tyr	Xaa	Leu	Cys	Xaa	Xaa	Xaa
1				5				10		

<210> 136

<211> 4

<212> PRT

<213> Artificial Sequence

<220>
<223> N-terminus of fibrinogen molecule

<400> 136
Gly Pro Arg Val
1

<210> 137
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic fibrin binding peptide

<400> 137
Asp Tyr Tyr Gly Thr
1 5

<210> 138
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> synthetic fibrin binding peptide

<400> 138
Gly Asp Tyr Tyr Gly Thr Gly
1 5